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ARIZONA ORANGES.

The Promising Future Before This Crop.

The methods that are bringing success to Arizona orange growers are worthy of careful study. The Fruit Trade Journal says:

"In view of the high prices now being realized for Arizona navel oranges, and the attention the fruit is attracting in this market, any facts pertaining to the crop, especially in regard to its probable size, are of especial interest. Already it is reported that there will be a considerably increased output next year, and the trade is speculating as to the effect of such an event, not only on the price of these oranges themselves, now regarded as dividing honors with fall Valencia lates of California for high prices, but on oranges from other sections.

So far, this Arizona fruit enjoys the same advantage as the Valencia lates; it has the field pretty much to itself when it comes. The Valencia lates are marketed when the orange season is nearly over. The Phenix Association sends in its fruit before the sweet oranges have begun to arrive for the winter, and when fruit of best quality is at a premium. What will be the result if several cars of these fine oranges come every week well into the winter?

The following from a special correspondent of the Baltimore "Sun" at Phenix will be found of considerable interest:

"Oranges are beginning to ripen in the groves surrounding Phenix, and their maturity calls attention to a curious experiment in horticulture which has been tried here.

"Acres of orange trees growing indoors or at least under cover is one of the strange sights to be witnessed a few miles from Phenix. The scheme is a gigantic one, and if the experiment proves a success the plan will embrace thousands of acres of orchards.

"Intense heat and too brilliant sunshine are as much to be avoided by the orange grower as frost and freezing winds. The cover over the orchard now being experimented with is designed to be as much of a protection in summer as in winter. For years the orange growers watched the fruit in their orchards fighting in vain against the great odds of too much natural heat. Careful pickers found that by assorting their fruit they could get better prices for the 25 per cent from the northwest side of the trees, which were the least exposed to the direct rays of the sun. At one time canvas covers were tried, but these kept out too much sunlight, and the fruit was retarded. Finally one of them envolved his theory and put it into practice.

"The plan is simple, and its application comparatively inexpensive in the cost per acre. A 2x4 inch timber 14 feet long is set up close to each tree. Across the tops of the timbers are stretched heavy galvanized wires the length of the orchard. At closer intervals, crosswise, are stretched lighter wires, the whole roof being guyed by wires running from the tip of one pole to the bottom of another, and in one direction, so as to interfere the least with the cultivation of the orchard. Upon this framework of wire is woven a light covering of willow brush, which grows wild along the natural and artificial water courses.

"The roof is not a tight one, and would not hold rain, which would readily drop between the openings left in the brush. In the same way the sunlight is filtered through, and its intense heat is tempered for the trees beneath. Another value of the protecting cover is the conservation of moisture. Although the trees shade the ground immediately beneath them, there are large open spaces of ground to rob the trees of their share of the water put into the ground by irrigation. The cover is expected to greatly retard this evaporation, and aid in keeping the soil moist and mellow, so that in time less frequent irrigation may be needed to feed the orchards.

"Nearly as great is the difference of temperature beneath the shed and outside of it in winter as in summer. Although frosts are of infrequent occurrence, when they do occur the damage done in one year may be ten times the cost of building the protecting shed. It has been found that there is a difference of 8 degrees between the temperature just outside the shed and that under it, so that a repetition of the lowest temperature ever experienced in the orange belt would leave a safe margin over the freezing point within the shed. Some of the huge sheds, for greater protection, have a canvas curtain to drop on the north and east sides as a shield from cold winds.

In some places during the past winter where the trees have grown to the roof and thrust shoots through it, the frost would nip the leaves on the unprotected twigs, while beneath the shed there would be no sign of disturbance.

"Ordinarily in cold weather, smudging' has been resorted to by the growers. Low fires are built through the orchards, and different combinations of fuel have been tried, usually with coal or coal dust as a base. The sheds are expected to do away with this expense and anxiety as to whether the smudge is having the desired effect.

That the orange crop is worth protection is evidenced by the high prices obtained for the fruit, because it ripens and may be marketed nearly two months earlier than that grown in California.

"It is only ten years ago that the first crop of oranges was picked in Arizona, and ten years before that the first trees were planted. At first Florida stock was set out, but the result was so unsatisfactory that California trees were substituted. Now the nurserymen have returned largely to the Florida stock, setting out the shoots to grow a year before they are budded, and then another year in the nursery before being transplanted to the orchard.

"Arizona oranges soon began to attract attention in the East, and the climax was reached in the opinion of the growers when in 1894 California judges at the Midwinter Exposition in San Francisco awarded the first prize to Arizona oranges over those of their own state. The award was for beautiful color and exquisite flavor, and these qualities have ever since been kept up, so that the fruit every year commands the highest price in Chicago and New York markets. One large hotel in New York contracts for Arizona oranges exclusively each year, and in good seasons they are delivered for Thanksgiving time, as they were this year.

"The orange district in the Salt River Valley is chiefly in a strip of land about three miles wide and running for twelve miles along the south side of a protecting range of hills, north of Phenix. Here the Washington navel, Jaffa and seedling grow best. At Yuma, in the south-western part of the territory Mediterranean sweet is most successfully grown.

"It is certain that with better methods for irrigation and the storage of irrigation water, the area of Arizona orchards will be largely increased, and it is quite certain that the increased product will be as delicious in flavor as at present."

A Problem in Picking.

Under this title The Riverside Press and Horticulturist, publishes a very interesting article on this subject. We believe that it will prove instructive and valuable to some of our Florida orange growers.

In taking but a part of a crop of oranges, is it best economy to pick clean over a portion of the orchard, or take part of the load from all the trees?

It may seem late in the season to discuss this matter, but I can't help thinking that many are acting in it without careful consideration, even now. Granting that special conditions may sometimes make it best to take the entire crop at one picking, under ordinary conditions, it seems to me a wasteful mistake.

The coloring of an orange is no more sign that it has completed its growth than that its starch has been fully converted into sugar, rendering it thoroughly palatable. Its size continues to increase for weeks and months after it has turned yellow; apparently as many think, who have not given the matter special consideration. When my attention was first called to it some years ago, I carefully measured and labeled a large number of well colored fruits of different sizes, and kept careful record during the picking season. Though general observation had convinced me it was considerable, this test showed a much greater increase after the ripening process had commenced than I had supposed.

The commercial sizes, ranging from 96s to 300s, and below, vary by one-eighth of an inch in diameter. This 1-16 of an inch added to the surface, seems but a slight increase, but means more than one would casually think.

Let us figure a little. Allow a box, say 150s (3 inches in diameter) to increase to 126s (3 and one-eighth inch) and we have saved 11 and one-half per cent in solid contents or weight; that is, 8 pounds per box of 70 pounds, or 800 pounds in each 100 boxes. If worth one and one-half cents per pound, it means a gain of $12 on the 100 boxes, leaving a net gain of $10 on that amount. An increase of one-eighth inch in smaller sizes, makes yet larger per cent of increase of solid contents. For instance, 250s (two and one-half inches) increased to 216s (2 and five-eighth), have gained over 15 per cent; that is 1,050 pounds on every 100 boxes—$15.75. If fruit is worth one and one-half cents per pound, a small fraction of which would pay for the additional cost of picking and trouble.

This slight increase of 1-16 of an inch to the surface is largely added to all healthy fruits, till full maturity is reached, which is well on into the spring months. In fact it does not require long to put on one-eighth of an inch to the surface (an increase of two sizes), during the picking season, on thrifty trees, if they have been early relieved of a portion of their load. The increase from 250s to 200s (two sizes) amounts to 33 1-3 per cent of contents, or a gain of 35 cents per box of 70 pounds.

The extra cost of partial picking, and the convenience of having the orchard cleaned early, are insignificant compared with these gains. Several of our successful orchardists who have handled their crops in this way for many years assure me that their saving is from 10 to 20 per cent of the entire crop—a matter certainly worth considering, at least.

Besides the increase of the crop there are several important advantages in this partial picking. Trees carrying a heavy crop well into the spring must spend on it much of the vigor needed for the blooming near at hand, while if relieved early of a portion of it, the trees would be ready to take up the new work as well as develop the balance of the crop faster.

Again, early in the season, large